Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended) An ~~improved~~ encoder for a CATV upstream data channel transmitter, comprising:

a ~~BICM~~ convolutional encoder for receiving data values, said encoder concatenated with an outer Reed-Solomon encoder;

a bit interleaver interconnected with said encoder; and

a symbol mapper interconnected with said bit-interleaver.

Claim 2 (previously amended) The encoder of claim 1, wherein said ~~simple~~ symbol mapper is a QAM mapper.

Claim 3 (previously amended) A coding system which comprises:

an encoder for a CATV upstream data channel transmitter, comprising:

a ~~BICM~~ convolutional encoder for receiving data values, said encoder concatenated with an outer Reed-Solomon encoder;

a bit interleaver interconnected with said encoder; and

a symbol mapper interconnected with said bit interleaver; and

a bit-interleaved decoder for a CATV upstream channel receiver, comprising:

a scorer for receiving symbols;

a bit de-interleaver interconnected withs said scorer; and

a convolutional decoder interconnected with said bit de-interleaver.

in tended use

Claim 4 (cancelled)

Claim 5 (new) A decoding method, comprising:

receiving a sequence of soft QAM symbols;

scoring each bit for a decoding of a received soft QAM symbol by the minimum squared distance from corresponding symbols of the QAM constellation defined by said each bit to the real or imaginary part of said received soft QAM symbol;

de-interleaving said scored bits; and

convolutionally decoding said de-interleaved bits using said scores.